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c. Blind Taste Testing: A Case Study of an Emergency Room RN with Covid-19 Anosmia & Hypogeusia (Loss of Smell & Taste)

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Blind Taste Testing: A Case Study of an Emergency Room RN with Covid-19 Anosmia & Hypogeusia (Loss of Smell & Taste)

PSJH SoCal Regional Nursing Research Day
September 17, 2020

Marietta Sperry, MSN, RNC-MNN, CLC (DNP Student)

Kimberly Kohlieber, RN (BSN Student)

Background-Sars CoV-2, Covid -19, Novel Corona Virus

SARS-CoV-2 viron *is the cause* of COVID-19 infections

Declared a “Pandemic” March 2020 with total number-US deaths >188,000

- COVID-19 symptoms are diverse
- Strong relationship exists between COVID-19 infection and anosmia & ageusia
- § Symptom is an early indicator of disease onset = effective COVID-19 screening tool.
- § Sensation returns in most patients once recovered.



Image: <https://healthjade.net/wp-content/uploads/2019/04/ageusia.jpg>

RN Background

- 36-y.o. male, Emergency Room RN, no comorbidities
- Inserted PICC line in known Covid+ patient
- Patient coughed in RN's face during procedure
- RN was wearing PPE
- Patient had **not** been masked during the procedure
- 11 Days after exposure, RN experienced symptoms of
 - Cough
 - Fever
 - Tested positive for Covid-19
- 12 days after exposure lost sense of smell/taste
- Fatigue, shortness of breath



Literature Review

• **Anosmia**- Loss of sense of smell

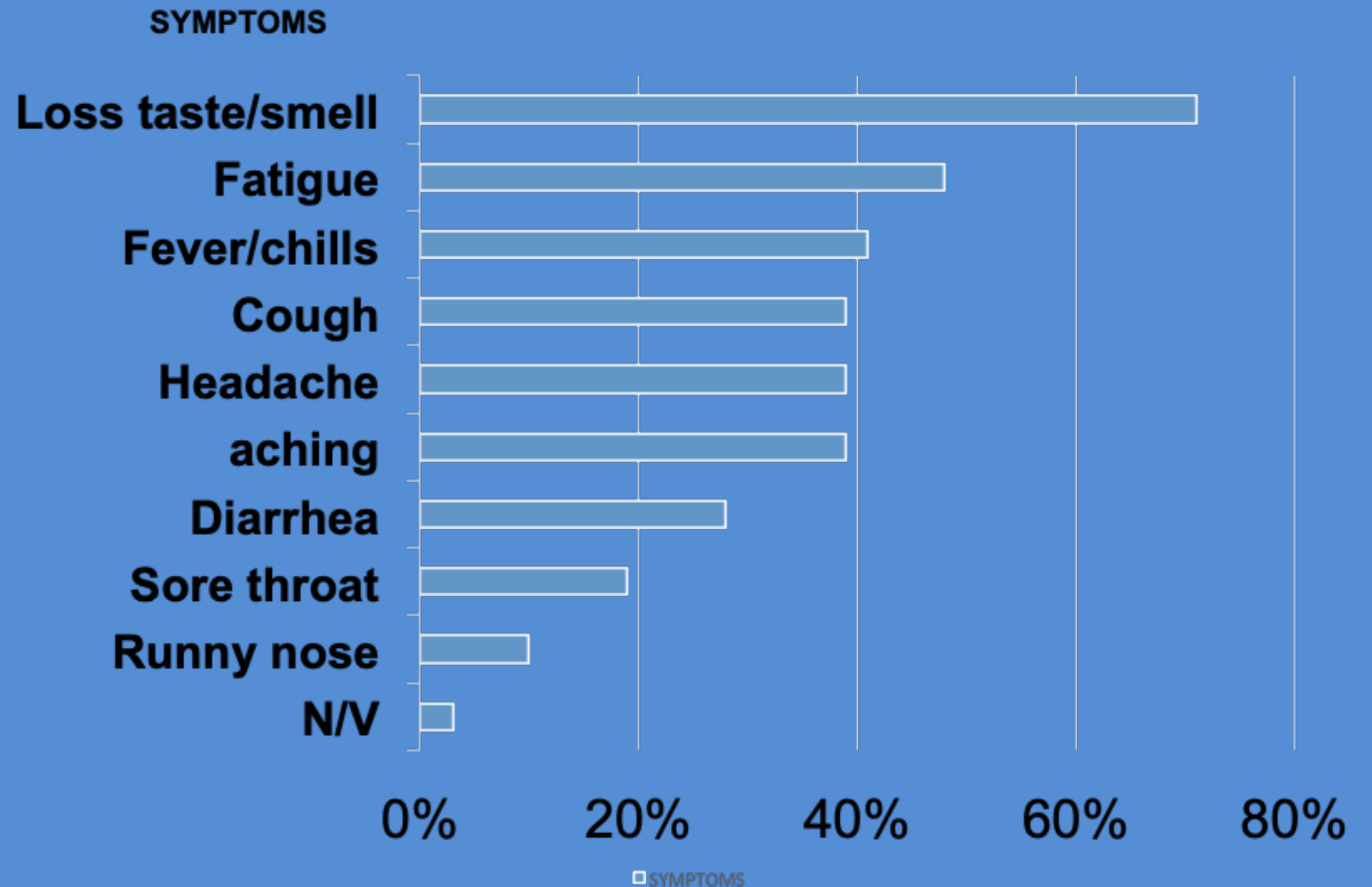
Ageusia- Loss of sense of taste

Hyposmia-

Reduced ability to smell

Hypogeusia-

Reduced ability to taste sweet, sour, bitter, or salty



(CDC, 2020b; Yan,, C.h., Faraji, F, Parjapati, D.P, et al, 2020))

- To describe one person's experience of onset of symptoms with Covid-19
- To understand the degree of sensation loss across the taste spectrum.



Image: https://static.scientificamerican.com/sciam/cache/file/85EBCEBD-9BE2-4A11-ADC0D8E9C98F5EEF_source.jpg?w=590&h=800&412434DE-3F2E-479F-8150A9C91FC5ABA5

- Interviews with subject
- Taste testing done blindfolded
- Transcribed video recording
- Video recordings data validated by two nurse researchers



Image: <https://www.rev.com/blog/how-to-conduct-interviews-in-qualitative-research>

Results



SPICES

Curry- "Is it flour? Tastes like ashes in my mouth"

Cajun- "It burns, is it black pepper"

Cumin- Could not distinguish anything

Chili powder- could feel texture, could not taste, but noted "my nose is watering"

Cayenne- "I don't taste anything, it just burns."

Chipotle- "Is it citrusy? My tongue is screaming..."

WATER FLAVORINGS

Piña Colada- "Is it berry? It tastes like berries"

Strawberry Watermelon- "Is it a lemonade?"

Blackberry Lemonade- "Watermelon strawberry, or.. melons?"



Results



LIQUIDS

Flavored oils-“Water”

Worcestershire Sauce-“Is it Vinegar?”

Dijon Mustard- “Soy sauce, jelly, texture is horrible

Catalina salad dressing-“It’s just disgusting, but I don’t know”

Fish sauce- “Awful, is it vinegar

Soy Sauce- “Tastes salty”

Rice Vinegar-“Is it like pickles?”

Tabasco- “Taking my breath away, like a hot sauce?”

FRESH FRUITS-14 DIFFERENT TYPES

Was not able to “taste” any flavors, but identified 99% by texture & water content



Outcomes

- Case study made full recovery after 3 weeks of illness and onset of symptoms.
- He has returned work as a nurse.
- Taste and smell sensation returned along with the resolution of other COVID-19 symptoms.
- He denies any lingering effects of the illness.



Photo Credit::Daniele D'Andreti. <https://unsplash.com/photos/sCqkCcYmtlM>

Limitations

This was a single case study

Future studies:

- Use a validated method of taste testing
- Cleansing the palate: coffee beans for olfactory odors; water crackers or lemon juice sorbet for gustatory tastes.
- Food consistency: fruits were identified by texture
- Explore impact on ability to smell and taste.
- Explore correlation of odors/tastes impacted, i.e. mostly salty, sweet, or umami
- Explore commonality of misinterpretation of taste/odor: sour vs bitter

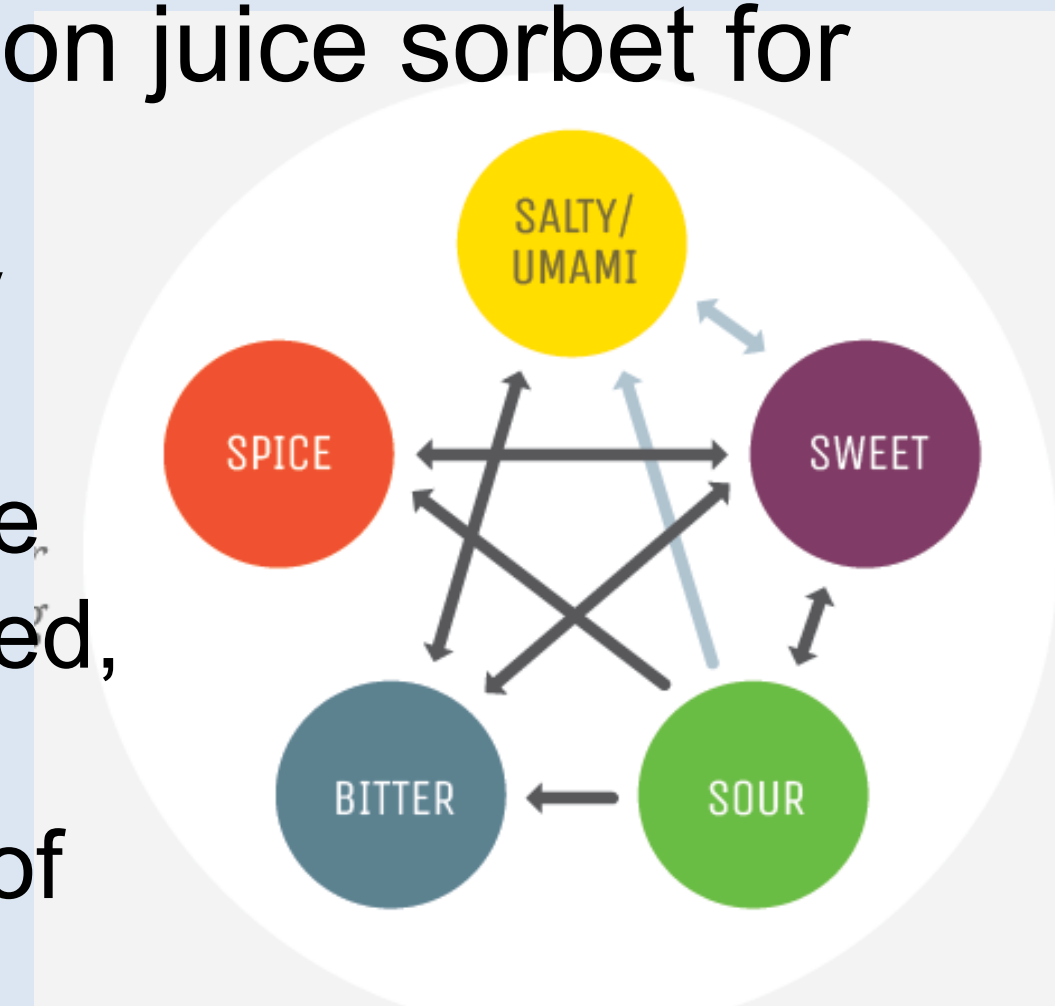


Image: https://1m8t7f33dnra3sfk6v2rjurs-wpengine.netdna-ssl.com/wp-content/uploads/2015/10/FlavorProfile_BlogSections_Draft3-01.png

Conclusions/ Implications

- Case study was able to detect some salty properties.
- Was able to detect fresh fruit by its texture
- Loss of sense of taste or smell should be recognized as an early indicator to reduce spread of Sars CoV-2.
- Nurses should continue to practice recommended use of PPE
- Severity of symptoms varies from person to person.
- Loss of sense of taste and smell was noted to be one of the most common symptoms in quasi experimental studies

Bios-Contact Information

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- Cedar Sinai Providence Tarzana/ Mother/Baby Unit
- BSN-Providence University, MSN from Indiana State University
- Tarzana for over 30 years, is passionate about EBP/QI/Research.
- Currently pursuing a doctorate; conducting QI project on nursing leadership's knowledge & support of nursing research
- Work (818) 609 2200

Kimberly Kohlieber, RN
BSN student (Dec 2019)

- Cedar Sinai Providence Tarzana/ Mother/Baby Unit, L&D, Med/Surg
- Member of Clinical Ladder & Patient Care Committees
- 12 years previously in Health Care industry as SNF Operations Consultant & Certified Software Trainer
- Trained EMT
- Earning BSN from Brigham Young University-Idaho
- Work (818) 609 2200

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